

REMARKS

The application has been carefully reviewed in light of the Office Action dated October 5, 2004. Claims 1 – 10 have been amended to comport with United States patent customs. It is important to note that no substantive limitations have been added to claims 1 – 3, 5 and 7 -10. They have merely been reworded. Claim 4 has been rewritten to clarify that a “plunger” is a claim element. Claim 6 has been rewritten to depend from claim 5. Independent claim 11 has been added and includes the limitations of claims 1 and 5. Independent claim 12 has been added and includes the limitations of claims 1 and 4.

Rejection under 35 U.S.C. § 112

Claims 1 – 10 stand rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Specifically, in claim 1, line 7, the phrase “and sealable on top” is considered indefinite, because it was unclear to the examiner whether the phrase is referring to the top of the crucible or the top of the nozzle pipe. While the applicant contends that the phrase clearly refers to the top of the nozzle pipe, the claim has been rewritten in order to further clarify the point.

Claim 6 stands rejected under 35 U.S.C. § 112 because the phrase “the reflectors” lacked proper antecedent basis. Claim 6 has been amended to properly depend from claim 5, providing the antecedent basis for the phrase “the reflectors.”

Rejection under 35 U.S.C. § 103

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakabayashi (JP 2001-192293), taken in view of Nicol (U.S. Patent No. 3,603,285), Cole (U.S. Patent No. 3,867,183), Witzman (U.S. Patent No. 6,202,591) and Goldstein (U.S. Patent No. 5,321,260), taken in view of Witzman alone, as well as in view of Cornelius (U.S. Patent No. 3,661,117) alone. Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Witzman taken in view of Makino (U.S. Patent No. 3,417,733). Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakabayashi taken in view of Nicol, Cole, Witzman for the same reasons as claim 1, taken further in view of Streetman (U.S. Patent No. 5,034,604). Claim 5 also stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Witzman in view of Remondiere (U.S. Patent No. 4,880,960) and Nakabayashi. Applicants respectfully traverse the rejections and request reconsideration.

The Office Action fails to establish a *prima facie* case of obviousness of the subject matter of amended claim 1, amended claim 4, and amended claim 5. Courts have generally recognized that a showing of a *prima facie* case of obviousness necessitates three requirements: (i) some suggestion or motivation, either in the references themselves or in the knowledge of a person of ordinary skill in art, to modify the reference or combine the references' teachings; (ii) a reasonable expectation of success; and (iii) the prior art references must teach or suggest all of the claim limitations. See e.g., In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998); Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed. Cir. 1996). The references used in the Office Action fail one or more prongs of obviousness in that, without the use of hindsight, there would be no motivation to combine the cited references. Also, the cited references fail to teach or suggest all of the claim limitations of the present invention.

In the present case, as mentioned above, Nakabayashi, Nicol, Cole, Witzman, and Goldstein fail to teach or suggest the subject matter of claim 1. As the examiner suggests,

Nakabayashi discloses a vapor source for supplying vapor in a lateral direction. However, the nozzle pipe disclosed in Nakabayashi is bent in order to change the direction of the vapor from a longitudinal direction to a lateral direction. None of the references alone and no combination of the references discloses a nozzle pipe with “a horizontal vapor outlet in its lateral surface.” One advantage of such design is that substrates of varying length can be coated. The nozzle pipe’s length can be chosen so that it is as long as the length of the substrate. With the bent pipe design of the combined cited references only a small area of a substrate can be reached, necessitating the use of two or more crucibles to coat substrates of greater dimensions. Additionally, none of the cited references disclose or teach a nozzle pipe with a “top that is sealable.”

The examiner has rejected claim 1 as being rendered obvious in view of Witzman because Witzman’s chimney is mounted on top of the crucible. However, as stated above, the prior art references must teach or suggest all of the claim limitations. Witzman does not teach a nozzle pipe with a top that is sealable, nor does it teach a nozzle pipe with a horizontal vapor outlet in its lateral surface. The chimney of Witzman has a vapor outlet on its top for a vertically aligned substrate. This configuration is substantially dissimilar to the present invention and in no way teaches the claimed elements.

Claim 1 has also been rejected under 35 U.S.C. § 103(a) as being unpatentable over Cornelius because the crucible and capillary tubes of Cornelius have separate heaters. Cornelius in no way teaches all of the claim elements of claim 1. The capillary tube of Cornelius, even if it were considered a nozzle pipe, is bent in order to provide the horizontal flow of vapor toward the substrate. The capillary tube does not have, nor does it teach, a top that is sealable or a horizontal vapor outlet in its lateral surface. Therefore, Cornelius does not render claim 1 obvious because it does not teach every element of the claim.

For the reasons stated above, claim 1 has been placed in a condition for allowance. Therefore, claims 2 – 10, which depend from claim 1, have been placed in condition for allowance. Claim 11 has been added and combines the limitations of claim 1 with the limitations of claim 4. Similarly, claim 12 has been added and

combines the limitations of claim 1 with the limitations of claim 5. Inherently, claims 11 and 12 are in condition for allowance. However, should the examiner not agree with the reasons for placing claim 1 in a condition for allowance, as stated above, we respectfully traverse the rejections to claims 4 and 5.

As mentioned above, claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Witzman taken in view of Makino (U.S. Patent No. 3,417,733). The combination of Witzman and Makino does not teach all of the claimed elements of amended claim 4. Neither reference discloses or teaches a pipe heater which is independent of the crucible heater, nor do they teach a plunger having an adjustable height for selective engagement with the coaxial filling opening from above.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakabayashi taken in view of Nicol, Cole, Witzman, and Goldstein for the reasons stated in the rejection of claim 1, taken in further view of Streetman. Claim 5 also stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Witzman in view of Remondiere (U.S. Patent No. 4,880,960) and Nakabayashi. For the reasons mentioned above for claim 1, claim 5 is in a condition for allowance. Additionally, the examiner has not shown a motivation to combine Nicol, Cole, Witzman, Goldstein and Streetman, or Witzman, Remondiere and Nakabayashi either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Also, the combination of the above references does not result in the claimed invention. None of the references mentioned contain a nozzle pipe with a horizontal vapor outlet on its lateral surface or a top that is sealable. Therefore, the references do not teach all of the claimed elements of the present invention.

The basic tenets of patent law state that the claimed invention must be considered as a whole; the references must be considered as a whole; the references must be viewed without the benefit of impermissible hindsight afforded by the claimed invention; and there must be a reasonable expectation of success. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5 (Fed. Cir. 1986); M.P.E.P. § 2141. In general, the examiner has used multiple references to build an obviousness rejection for each

claim of the invention. Some of the combinations teach some of the elements of each claim, however, none of the combinations teach all of the elements of any claim. In no instance has the examiner provided a motivation to combine the references.

Rejection under 35 U.S.C. § 102(b)

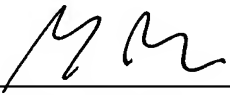
Claim 1 stands rejected under 35 U.S.C. § 102(b) as anticipated by Cornelius. Applicants respectfully traverse the rejection and request reconsideration.

In order for a reference to qualify as prior art under 35 U.S.C. § 102, the reference must "anticipate" the claimed invention. This means that the reference must disclose each and every element of the claimed invention. In *re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997); *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047 (Fed. Cir. 1995); *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991); *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Here, the examiner states that Cornelius discloses a crucible with a capillary tube mounted on top for vapor deposition. In Cornelius, as the examiner points out, the crucible and the capillary tube have separate heaters. While this may be true, the present invention claims a nozzle pipe and not capillary tubes. Even should the examiner come to the conclusion that the capillary tube of Cornelius was a nozzle pipe, Cornelius does not disclose a nozzle pipe with a top that is sealable or a horizontal vapor outlet in its lateral surface. Accordingly, the rejection of claim 1 should be withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. A fee for a one month extension has been enclosed. No additional fee is believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

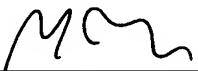


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Gregory J. Kirsch



Date